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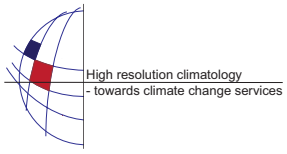

Time series of Essential Climate Variables from Satellite Data

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Climate change is a fact. We need to know how the climate system will develop in future and how this will affect workaday life. To do this we need climate models for prediction of the future on all time scales, and models to assess the impact of the prediction results to the various sectors of social and economic life. With this knowledge we can take measures to mitigate the causes and adapt to changes.

Prerequisite for this is a careful and thorough monitoring of the climate systems. Satellite data are an increasing & valuable source of information to observe the climate system.

For many decades now satellite data are available to derive information about our planet earth. EUMETSAT is the European Organisation in charge of the exploitation of satellite data for meteorology and (since the year 2000) climatology. Within the EUMETSAT Satellite Application Facility (SAF) Network, comprising 8 initiatives to derive geophysical parameters from satellite, the Satellite Application Facility on Climate Monitoring (CM SAF) is especially dedicated to provide climate relevant information from satellite data. Many products as e.g. water vapour, radiation at surface and top of atmosphere, cloud properties are available, some of these for more then 2 decades.

Just recently the European Space Agency (ESA) launched the Climate Change Initiative (CCI) to derive Essential Climate Variables (ECVs) from satellite data, including e.g. cloud properties, aerosol, ozone, sea surface temperature etc..

The presentation will give an overview on some relevant European activities to derive Essential Climate Variables from satellite data and the links to Global Climate Observing System (GCOS), the Global Satellite Intercalibration System (GSICS) as well as the Sustained Co-ordinated Processing of Environmental Satellite Data for Climate Monitoring (SCOPE CM).